Amendments to the Claims

The following Listing of Claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A machine-implemented method of encoding a target image of a scene captured at a first image plane, comprising:

computing a transformation (H) mapping at least three noncollinear points substantially coplanar on a scene plane in the target image to corresponding points in a ~~references~~ reference image of the scene captured at a second image plane different from the first image plane;

~~identifying~~ ascertaining an epipole (e_{REF}) in the reference image from at least one point in the target image off the scene plane and at least one corresponding point in the reference image;

determining respective values of a scalar parameter Θ that map blocks of points in the target image to respective matching blocks of points in the reference image in accordance with a motion model corresponding to $\vec{b}_{REF} = (H \cdot \vec{b}_{TARGET}) + \Theta \cdot \vec{e}_{REF}$, wherein $\vec{b}_{TARGET}$ is a vector that represents a point within a respective one of the blocks of the target image and $\vec{b}_{REF}$ is a vector that represents a point within a respective one of the blocks of the reference image

~~estimating a motion between the target image and the reference image based on the computed transformation and the identified corresponding off-scene-plane points~~; and

compressing the target image, wherein the compressing comprises encoding ones of the blocks of the target image ~~based at least in part on~~ in terms of the reference image and the ~~estimated motion~~ respective vectors $\vec{b}_{REF}$ that are specified by respective ones of the determined values of the scalar parameter Θ.

Claim 2 (original): The method of claim 1, further comprising identifying the at least three scene plane points in the target image and the at least three corresponding scene plane points in the reference image.

Claim 3 (currently amended): The method of claim 1, wherein ~~estimating~~ the motion ~~comprises defining~~model defines single-parameter search spaces each relating points in the reference image to respective points in the target image.

Claim 4 (currently amended): The method of claim 3, wherein ~~defining the single-parameter search space~~the ascertaining comprises computing ~~an~~ the epipole in the reference image based on the computed transformation and the identified corresponding off-scene-plane points.

Claim 5 (currently amended): The method of claim 4, wherein ~~defining a respective single-parameter search space comprises parameterizing~~the motion model parameterizes an epipolar line extending through the computed epipole in the reference image.

Claim 6 (currently amended): The method of claim 5, wherein the motion model defines a respective single-parameter search space ~~is defined~~ for each of the blocks of points in the target image.

Claim 7 (currently amended): The method of claim 6, wherein ~~a respective single-parameter search space is defined by a parameterized~~the epipolar line in the reference image ~~extending~~ extends through the epipole and a point corresponding to a mapping of a given point in the target image to a corresponding point in the reference image based on the computed transformation.

Claim 8 (currently amended): The method of claim 3, wherein ~~estimating the motion~~the determining comprises dividing the target image into blocks of points and computing for each of

the divided blocks a respective one of the ~~motion~~ vectors $\vec{b}_{REF}$ representing motion between ~~a target image~~the divided block and a matching one of the reference image blocks.

Claim 9 (currently amended): The method of claim 8, wherein each of the ~~motion~~ vectors $\vec{b}_{REF}$ describes a one-to-one mapping between a respective one of the blocks of points in the target image and a matching one of the blocks of points in the reference image.

Claim 10 (currently amended): The method of claim 1, wherein ~~encoding the target image~~the compressing comprises representing points of the target image in terms of the ~~estimated motion~~vectors $\vec{b}_{REF}$ and motion compensation difference data representing intensity adjustments to points of the reference image for reconstructing corresponding points of the target image.

Claim 11 (currently amended): An apparatus for encoding a target image of a scene captured at a first image plane, comprising an encoder operable to perform operations comprising:

~~compute~~ computing a transformation (H) mapping at least three noncollinear points substantially coplanar on a scene plane in the target image to corresponding points in a ~~references~~ reference image of the scene captured at a second image plane different from the first image plane;

ascertaining an epipole (e_{REF}) in the reference image from ~~identify~~ at least one point in the target image off the scene plane and at least one corresponding point in the reference image;

determining respective values of a scalar parameter Θ that map blocks of points in the target image to respective matching blocks of points in the reference image in accordance with a motion model corresponding to $\vec{b}_{REF} = (H \cdot \vec{b}_{TARGET}) + \Theta \cdot \vec{e}_{REF}$, wherein $\vec{b}_{TARGET}$ is a vector that represents a point within a respective one of the blocks of the target image and $\vec{b}_{REF}$ is a vector that represents a point within a respective one of the blocks of the reference image~~estimate a~~

~~motion between the target image and the reference image based on the computed transformation and the identified corresponding off-scene-plane points~~; and

compressing the target image, wherein the compressing comprises encoding ones of the blocks of ~~encode~~ the target image ~~based at least in part on~~ in terms of the reference image and the respective vectors $\vec{b}_{REF}$ that are specified by respective ones of the determined values of the scalar parameter Θ ~~estimated motion~~.

Claim 12 (original): The apparatus of claim 11, wherein the encoder is further operable to identify the at least three scene plane points in the target image and the at least three corresponding scene plane points in the reference image.

Claim 13 (currently amended): The apparatus of claim 11, wherein ~~the encoder is operable to estimate~~ the motion model defines ~~by defining~~ single-parameter search spaces each relating points in the reference image to respective points in the target image.

Claim 14 (currently amended): The apparatus of claim 13, wherein in the ascertaining the encoder is operable to ~~define the single-parameter search space by computing an~~compute the epipole in the reference image based on the computed transformation and the identified corresponding off-scene-plane points.

Claim 15 (currently amended): The apparatus of claim 14, wherein the ~~encoder is operable to define a respective single-parameter search space by parameterizing~~ motion model parameterizes an epipolar line extending through the computed epipole in the reference image.

Claim 16 (currently amended): The apparatus of claim 15, wherein the ~~encoder~~ motion model defines a respective single-parameter search space for each of the blocks of points in the target image.

Claim 17 (currently amended): The apparatus of claim 16, wherein ~~a respective single-parameter search space is defined by a parameterized~~the epipolar line in the reference image ~~extending~~ extends through the epipole and a point corresponding to a mapping of a given point in the target image to a corresponding point in the reference image based on the computed transformation.

Claim 18 (currently amended): The apparatus of claim 13, wherein in the determining the encoder is operable to ~~estimate the motion by~~perform operations comprising dividing the target image into blocks of points and computing for each of the divided blocks a respective one of the ~~motion~~ vectors $\vec{b}_{REF}$ representing motion between ~~a target image~~the divided block and a matching one of the reference image blocks.

Claim 19 (currently amended): The apparatus of claim 18, wherein each of the ~~motion~~ vectors $\vec{b}_{REF}$ describes a one-to-one mapping between a respective one of the blocks of points in the target image and a matching one of the blocks of points in the reference image.

Claim 20 (currently amended): The apparatus of claim 11, wherein in the compressing the encoder is operable to perform operations comprising ~~encode the target image by~~ representing points of the target image in terms of the ~~estimated motion~~vectors $\vec{b}_{REF}$ and motion compensation difference data representing intensity adjustments to points of the reference image for reconstructing corresponding points of the target image.

Claim 21 (currently amended): A machine-readable medium storing machine-readable instructions for causing a machine to perform operations comprising:

~~compute~~ computing a transformation (H) mapping at least three noncollinear points substantially coplanar on a scene plane in the target image to corresponding points in a ~~references~~ reference image of the scene captured at a second image plane different from the first image plane;

ascertaining an epipole (e_{REF}) in the reference image from ~~identify~~ at least one point in the target image off the scene plane and at least one corresponding point in the reference image;

determining respective values of a scalar parameter Θ that map blocks of points in the target image to respective matching blocks of points in the reference image in accordance with a motion model corresponding to $\vec{b}_{REF} = (H \cdot \vec{b}_{TARGET}) + \Theta \cdot \vec{e}_{REF}$, wherein $\vec{b}_{TARGET}$ is a vector that represents a point within a respective one of the blocks of the target image and $\vec{b}_{REF}$ is a vector that represents a point within a respective one of the blocks of the reference image~~estimate a motion between the target image and the reference image based on the computed transformation and the identified corresponding off-scene-plane points~~; and

compressing the target image, wherein the compressing comprises encoding ones of the blocks of ~~encode~~ the target image ~~based at least in part on~~ in terms of the reference image and the respective vectors $\vec{b}_{REF}$ that are specified by respective ones of the determined values of the scalar parameter Θ ~~estimated motion~~.

Claim 22 (currently amended): The machine-readable medium of claim ~~22~~21, wherein the machine-readable instructions further cause the machine to identify the at least three scene plane points in the target image and the at least three corresponding scene plane points in the reference image.

Claim 23 (currently amended): The machine-readable medium of claim 21, wherein ~~the machine-readable instructions cause the machine to estimate~~ the motion model defines ~~by defining~~ single-parameter search spaces each relating points in the reference image to respective points in the target image.

Claim 24 (currently amended): The machine-readable medium of claim 23, wherein in the ascertaining the machine-readable instructions cause the machine to ~~define the single-parameter search space by~~perform operations comprising computing ~~an~~ the epipole in the

reference image based on the computed transformation and the identified corresponding off-scene-plane points.

Claim 25 (currently amended): The machine-readable medium of claim 24, wherein the motion model parameterizes~~the machine-readable instructions cause the machine to define a respective single-parameter search space by parameterizing~~ an epipolar line extending through the computed epipole in the reference image.

Claim 26 (currently amended): The machine-readable medium of claim 25, wherein the ~~machine-readable instructions cause the machine to~~motion model defines a respective single-parameter search space for each block of points in the target image.

Claim 27 (currently amended): The machine-readable medium of claim 26, wherein ~~a respective single-parameter search space is defined by a parameterized~~ the epipolar line in the reference image ~~extending~~ extends through the epipole and a point corresponding to a mapping of a given point in the target image to a corresponding point in the reference image based on the computed transformation.

Claim 28 (currently amended): The machine-readable medium of claim 23, wherein in the determining the machine-readable instructions cause the machine to perform operations comprising~~estimate the motion by~~ dividing the target image into blocks of points and computing for each of the divided blocks a respective one of the~~motion~~ vectors $\vec{b}_{REF}$ representing motion between ~~a target image~~the divided block and a matching one of the reference image blocks.

Claim 29 (currently amended): The machine-readable medium of claim 28, wherein each of the motion vectors $\vec{b}_{REF}$ describes a one-to-one mapping between a respective one of the blocks of points in the target image and a matching one of the blocks of points in the reference image.

Claim 30 (currently amended): The machine-readable medium of claim 21, wherein in the compressing the machine-readable instructions cause the machine to ~~encode the target image by~~perform operations comprising representing points of the target image in terms of the ~~estimated motion~~vectors $\vec{b}_{REF}$ and motion compensation difference data representing intensity adjustments to points of the reference image for reconstructing corresponding points of the target image.